

PATENT SPECIFICATION

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(54) WEATHER STRIP FOR PREFABRICATED ELEMENTS OF AN OUTER WALL

(71) We, A/S DEN NORSKE REM-FABRIK, a Norwegian Company of P.O. Box 1, 1410 Kolbotn, Norway, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to joints between prefabricated elements of an outer wall of a building.

Usually the joints between prefabricated elements of an outer wall, for instance concrete elements, which joints are mostly vertical, are sealed by an elastic compound and, in order to protect this compound from heavy showers and other weather influences, the joint is enlarged adjacent the front of the elements to form an undercut channel for a weather protection member in the form of a weather strip of rubber or the like. Various embodiments of such weather strips are known, but none of them is quite satisfactory. In order to hold the strip in a correct position in the undercut channel, the strip is usually in the form of a tube which is a close fit in the channel. The major disadvantage of such a design is that the strip occupies too much of the cross-section of the channel. In fact, the channel inside the weather strip should be as open as possible in order to provide good ventilation of the joint. Further, the cross-section of tubular weather strips will easily become permanently deformed or flattened during storage, whereby the sealing properties are reduced. Some known weather strips are also provided with ribs or webs projecting into the joint and engaging the sides or corners of the channel to hold the strip in a correct position. Nevertheless, such strips will often occupy an oblique or distorted position.

Weather strips for the purpose referred to are also known which have a flat tape-like shape with an elongated, substantially rectangular cross-section. Such strips provide the maximum free passage behind the strip for ventilating the joint, but have the disadvantage that, over a greater or lesser part of their

length, they frequently take up a position too far inside the joint or possibly an oblique position, whereby an unsatisfactory sealing is obtained.

The object of the invention is to provide an improved joint incorporating a weather strip of the type referred to, which strip can readily be placed in the desired position in the channel and at the same time permits the major part of the cross-section of the channel behind the strip to be left free for ventilating the joint.

According to the invention there is provided a joint formed by two adjacent edges of two prefabricated elements of an outer wall of a building, each adjacent edge having a channel cooperating with the opposed channel of the other edge to define a groove opening onto the outer face of the wall and comprising an enlarged undercut drainage channel, a weather strip of rubber or similar elastic material being provided in said drainage channel, the portion of said groove outside the drainage channel having a width sufficient to permit said weather strip when elastically deformed to be inserted through said portion into said drainage channel, said strip having on its outer face a longitudinal rib projecting from the drainage channel into the portion of said groove outside the drainage channel and having a free edge allowing the rib to be gripped for mounting of the strip. This rib can be gripped, for instance by pliers, whereby the strip, after being inserted in the channel, can be displaced in order to achieve the desired orientation and positioning thereof in the channel. Another advantage of this arrangement is that the rib can be pulled outwards so as to place the weather strip as far as possible towards the mouth of the channel. Additionally, the rib provides a direct indication as to whether the strip occupies a correct position and permits a lateral displacement of the strip, if necessary. It will be understood that it is preferably to arrange the rib along the central line of the strip so that the rib will be located midway between the wall elements

when the strip is correctly positioned in the channel.

The joint according to the invention makes it permissible to dispense with all members which were provided in the previously known joints referred to above for ensuring correct positioning of the strip within the channel. A special advantage of this joint is, therefore, that it permits the use of a weather strip that apart from the rib is elongated and has a substantially rectangular cross-section and accordingly a flat tape-like shape. As previously mentioned, such a strip will provide maximum free space behind the strip for ventilating the joint.

With a view to stiffening the strip as well as providing a good grip, the web preferably has a T-shaped cross-section.

The invention will now be described in more detail by way of example with reference to the accompanying drawings, in which:—

Figure 1 is a cross-sectional view of a weather strip suitable for use in the improved joint according to the invention.

Figure 2 is a view in horizontal section through the outer portion of the joint between two prefabricated elements of an outer wall and illustrates the weather strip of Figure 1 in a possible position after insertion in the undercut channel or enlargement of the joint, and

Figure 3 is a view similar to Figure 2, but illustrating the correct position of the weather strip.

The weather strip 1 illustrated in Figure 1 consists of a flat, tape-like portion 2 having a longitudinal central rib 3 on one face. The rib 3 has a T-shaped cross-section. Figure 2 illustrates a section of two wall elements 4, which are arranged so as to provide a joint 5 having an undercut channel or enlargement 6. The portion 5' of the joint 5 lying outside and forming the mouth of the channel 6 is somewhat wider than the portion of the joint inside the channel 6. The strip of Figure 1 can be inserted in the channel 6 by bending the edges of the strip together and inserting them through the portion 5' of the joint. Inside the channel, the edges of the strip will spring back and engage the walls of the channel 6. The correct position of the weather strip 1 is illustrated in Figure 3. In order to place the strip in this position after it has been inserted into the channel, the rib 3 is gripped, for instance by means of pliers, and pulled outwards into the position 5' of the joint so that the strip will engage the inwardly facing, undercut surfaces of the channel 6. The rib will then project from the channel or enlargement 6.

It has already been stated that the rib 3 stiffens the strip in the longitudinal direction thereof and provides a gripping member permitting the strip to be oriented in the channel or enlargement 6. The rib 3 further has the advantage of shielding or protecting the joint against heavy showers that are directed obliquely thereto. The effect of the strip as a protection against heavy showers is thereby increased. Further, the rib will act as a rain collector or rain guide, since the rainwater will tend to follow the corner between the rib and the weather strip proper. Without such a rib the water will collect at the joint between the wall element and the weather strip, whereby the risk of water penetration will obviously increase.

Although the main part of the weather strip in the joint according to this invention is advantageously of tape-like shape, i.e. elongated and of substantially rectangular cross-section, it will be understood that weather strips having other cross-sectional shapes may be used. For instance, beads may be provided at the marginal edges of the tape-like portion 2, which beads may also, if desired, be hollow.

WHAT WE CLAIM IS:—

1. A joint formed by two adjacent edges of two prefabricated elements of an outer wall of a building, each adjacent edge having a channel cooperating with the opposed channel of the other edge to define a groove opening onto the outer face of the wall and comprising an enlarged undercut drainage channel, a weather strip of rubber or similar elastic being provided in said drainage channel, the portion of said groove outside the drainage channel having a width sufficient to permit said weather strip when elastically deformed to be inserted through said portion into said drainage channel, said strip having on its outer face a longitudinal rib projecting from the drainage channel into the portion of said groove outside the drainage channel and having a free edge allowing the rib to be gripped for mounting of the strip.

2. A joint according to claim 1, wherein the weather strip, apart from the rib, is elongated and has a substantially rectangular cross-section and hence a flat tape-like shape.

3. A joint according to claim 1 or 2, wherein the rib of the weather strip has a T-shaped cross-section.

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COMPLETE SPECIFICATION

1 SHEET

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